

WHAT IS CLAIMED IS:

1                   1.       An anastomosis device comprising:  
2                   a component configured to be secured to a vessel and having an opening adapted  
3 to be placed in fluid communication with a lumen of the vessel;  
4                   wherein the component comprises a material having the ability to produce or be  
5 attracted by a magnetic field; and  
6                   wherein the component is configured to be secured to the vessel substantially  
7 without any fixation structure being present in the vessel lumen.

1                   2.       The device of claim 1, wherein the component is configured to be secured  
2 to the vessel without any fixation structure being present in the vessel lumen.

1                   3.       The device of claim 1, wherein the component has a surface configured to  
2 be secured to the vessel wall by adhesive.

1                   4.       An anastomosis device comprising:  
2                   a component having a portion configured to be adhered to a wall of a vessel by  
3 biocompatible adhesive to define a blood flow path into the vessel; and  
4                   wherein the component is configured to be secured to the vessel wall by an  
5 additional, nonadhesive-based attachment mechanism.

1                   5.       The device of claim 4, wherein the portion of the component and the  
2 attachment mechanism are configured to secure the component to the vessel without any fixation  
3 structure being present in the vessel lumen.

1                   6.       The device of claim 4, wherein the component comprises a material  
2 having the ability to produce or be attracted by a magnetic field.

1                   7.       An anastomosis device comprising:  
2                   a component configured to be secured to a vessel and having an opening adapted  
3 to be placed in fluid communication with a lumen of the vessel;

4 wherein the component comprises a material having the ability to produce or be  
5 attracted by a magnetic field; and

6 wherein the component has a portion that is at least partially curved.

1 8. The device of claim 7, wherein the component is configured to be secured  
2 to the vessel wall by an adhesive.

1 9. A method for forming an anastomosis comprising:

2 (a) providing a first vessel with a first anastomotic component;

3 (b) providing a second vessel with a second anastomotic component; and

4 (c) coupling the first and second anastomotic components to place their  
5 lumens in fluid communication;

6 (d) wherein at least one of steps (a) and (b) is performed at least in part by  
7 securing the anastomotic component to the vessel using adhesive.

1 10. The method of claim 9, wherein step (c) is performed at least in part by  
2 using magnetic force to couple the anastomotic components.